MERMAid

National Coastal Data Development Center's Metadata Enterprise Resource Management Aid

Presented By: Stacy Ladnier, MERMAid Technical Lead

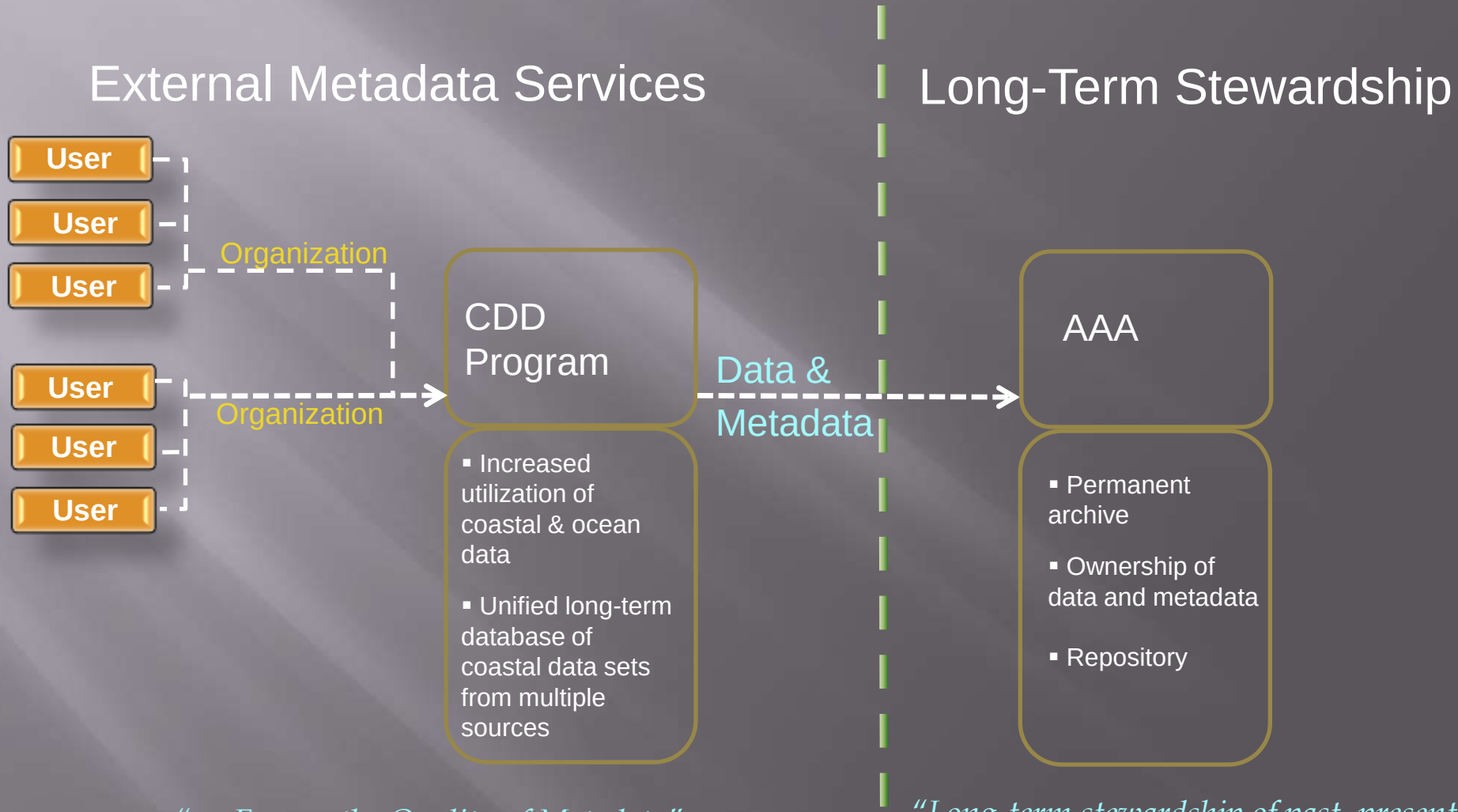
NESDIS Metadata Enterprise IT Meeting

Asheville, NC August 26, 2009

Overview

- Perspectives
- Background
- User Community
- MERMAid 2.0
- New Data Entry Interfaces
- Architecture
- Services

Two Perspectives within NESDIS Data Architecture



Background

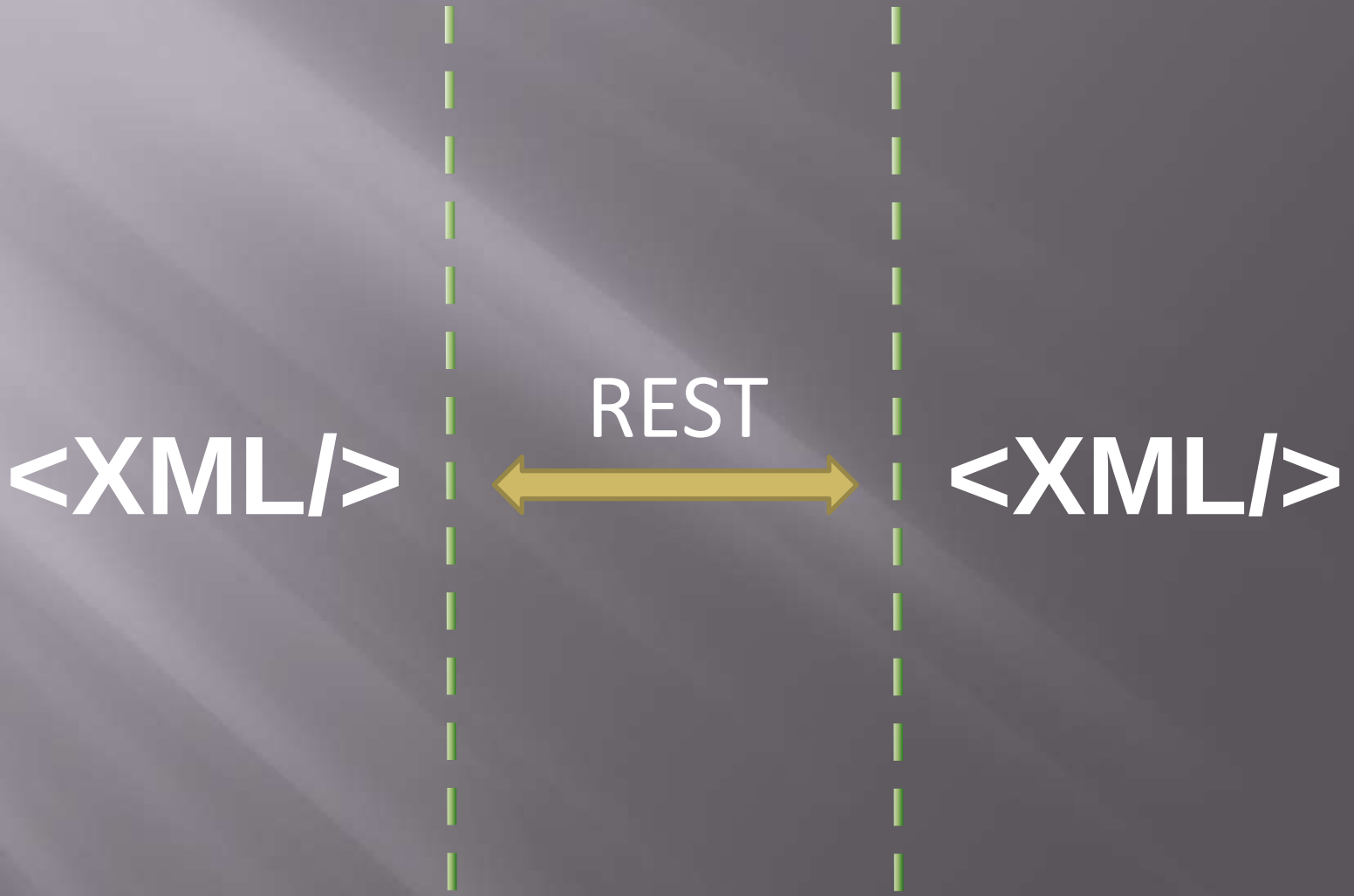
- Remote web access
- Accounts can be distributed to organizations external to NOAA
- No licensing fees
- Ability to support multiple profiles
- Full feature validation
- Hierarchy to support multiple record collections from variety of customers
- Publish metadata to several external destinations

User Community

- Over 500 user accounts
  - NOAA - 5 Line Offices and 20+ activities
  - USGS
  - Bureau of Land Management
  - US Army Corps of Engineers
  - US Navy
  - NASA
  - Gulf of Mexico Alliance
  - 30 universities, schools and laboratories
  - States Agencies: AK, AL, AZ, FL, LA, MA, MS, TX
  - Non-Governmental Organizations
  - Private Industry and Individuals
  - International (mainly from universities and labs)
  - and more …

Metadata Enterprise Resource Management Aid (MERMAid 2.0)

XRX



XRX - MERMAid. 2.0

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        <xf:/model>
    <head>
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```

REST

```
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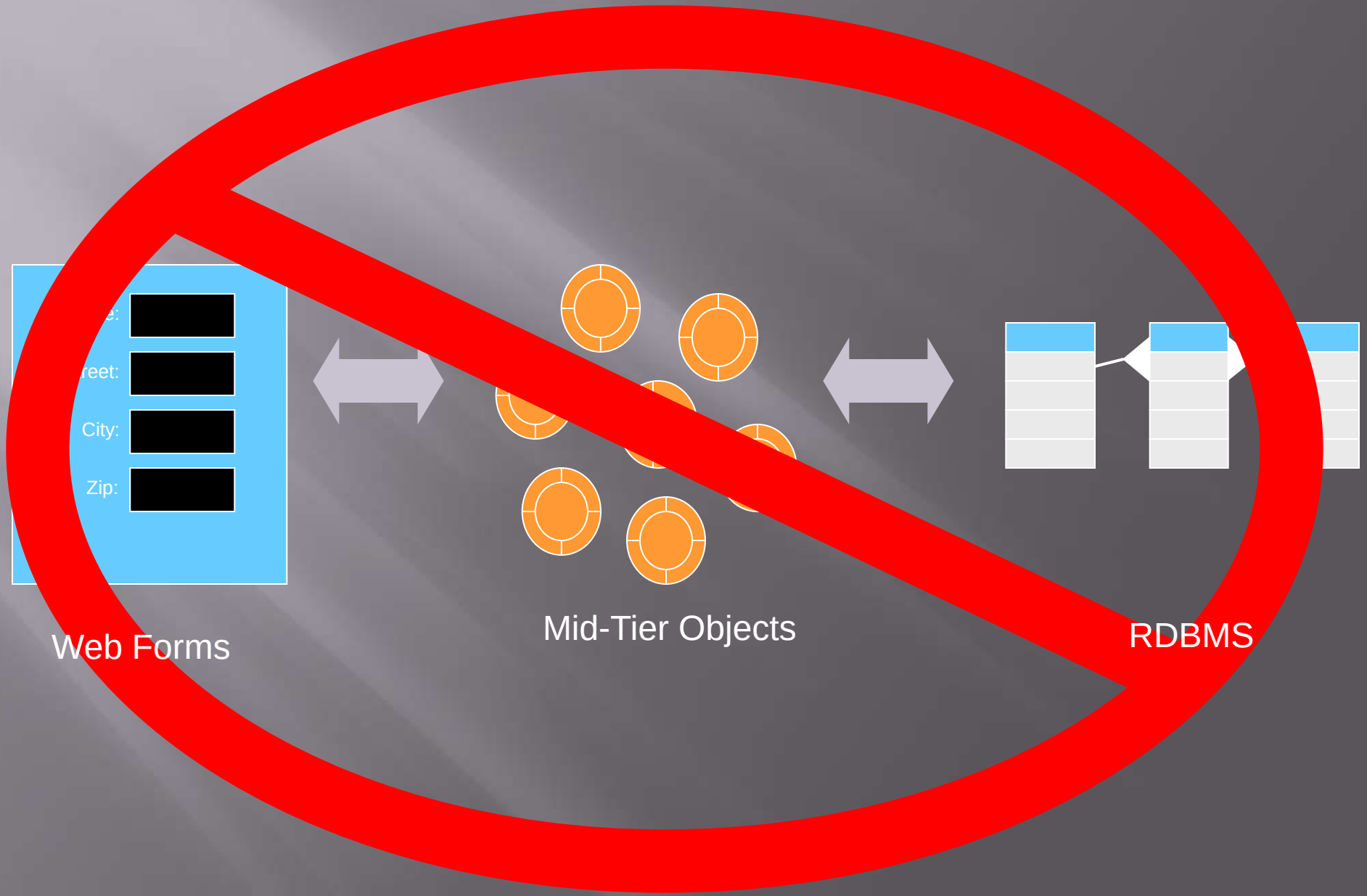
    <themekey>GIS</themekey>
    <themekey>aquatic health</themekey>
    <themekey>assessment</themekey>
    <themekey>land use/land cover</themekey>
    <themekey>mapping</themekey>
</theme>
<theme>
    <themekt>Habitat</themekt>
    <themekey>lakes</themekey>
    <themekey>rivers</themekey>
</theme>
```

XFORMS

Native XML Database

Web Applications



XSLT Processor

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    xmlns:oxf="http://www.orbeon.com/oxf/processors">

    <p:param name="instance" type="input"/>

    <p:processor name="oxf:xslt-2.0">
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        <p:input name="data" href="#instance#xpointer(/methodCall/thexml/*)"/>
        <p:output name="data" id="transformedXML"/>
    </p:processor>

    <p:processor name="oxf:xml-serializer">
      <p:input name="data" href="#transformedXML"/>
      <p:input name="config"><config/></p:input>
   </p:processor>
</p:config>
```

Native XML Database

```
<html>
    <head>
        <xf:model>
        <xf:/model>
    <head>
    <body>
      <xf:input>
      </xf:input>
    </body>
</html>
```

REST

XFORMS

Native XML Database

Many small vs. One Large

CSS

XForms

XLink

XPath

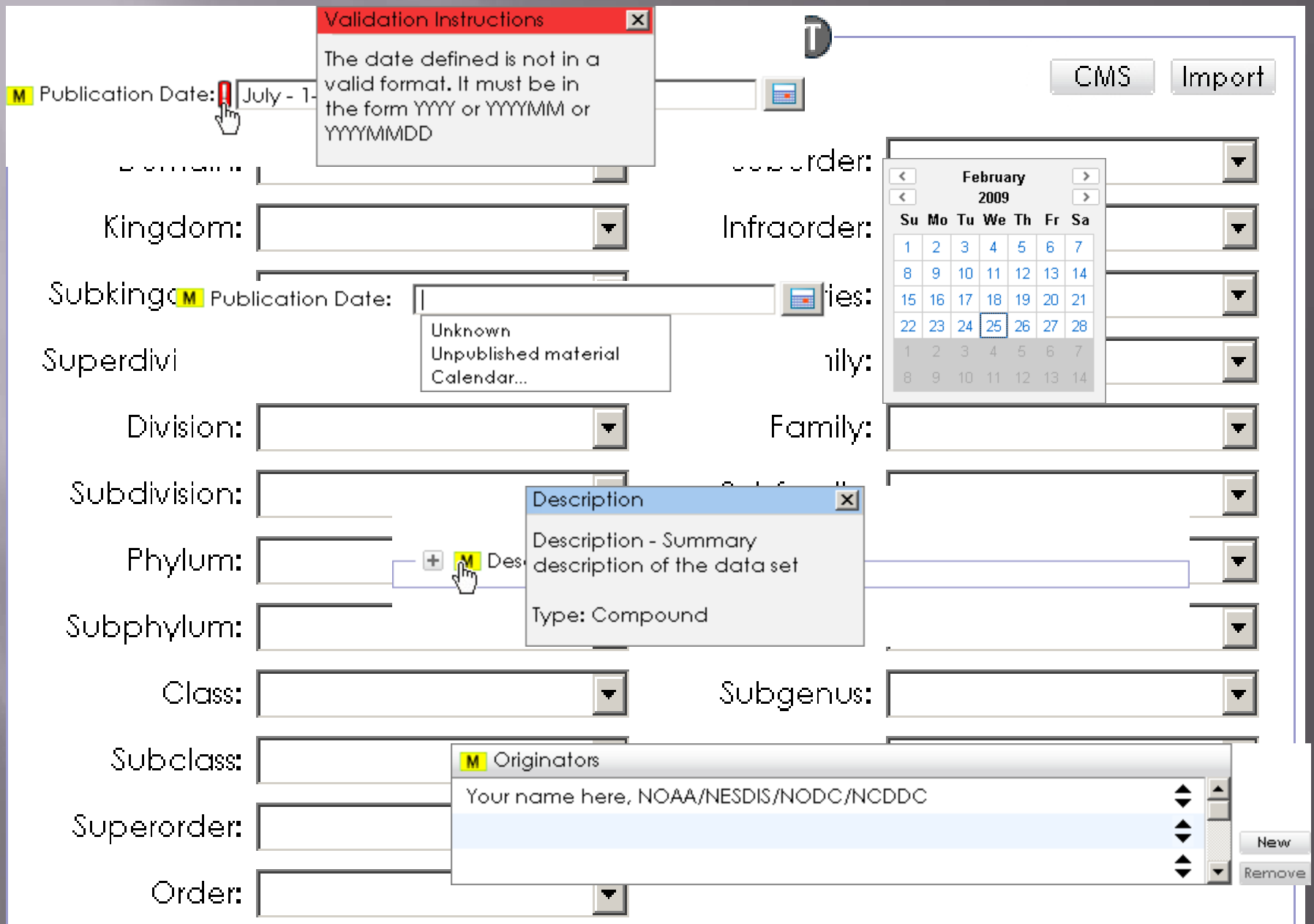
XQuery

XML Schema

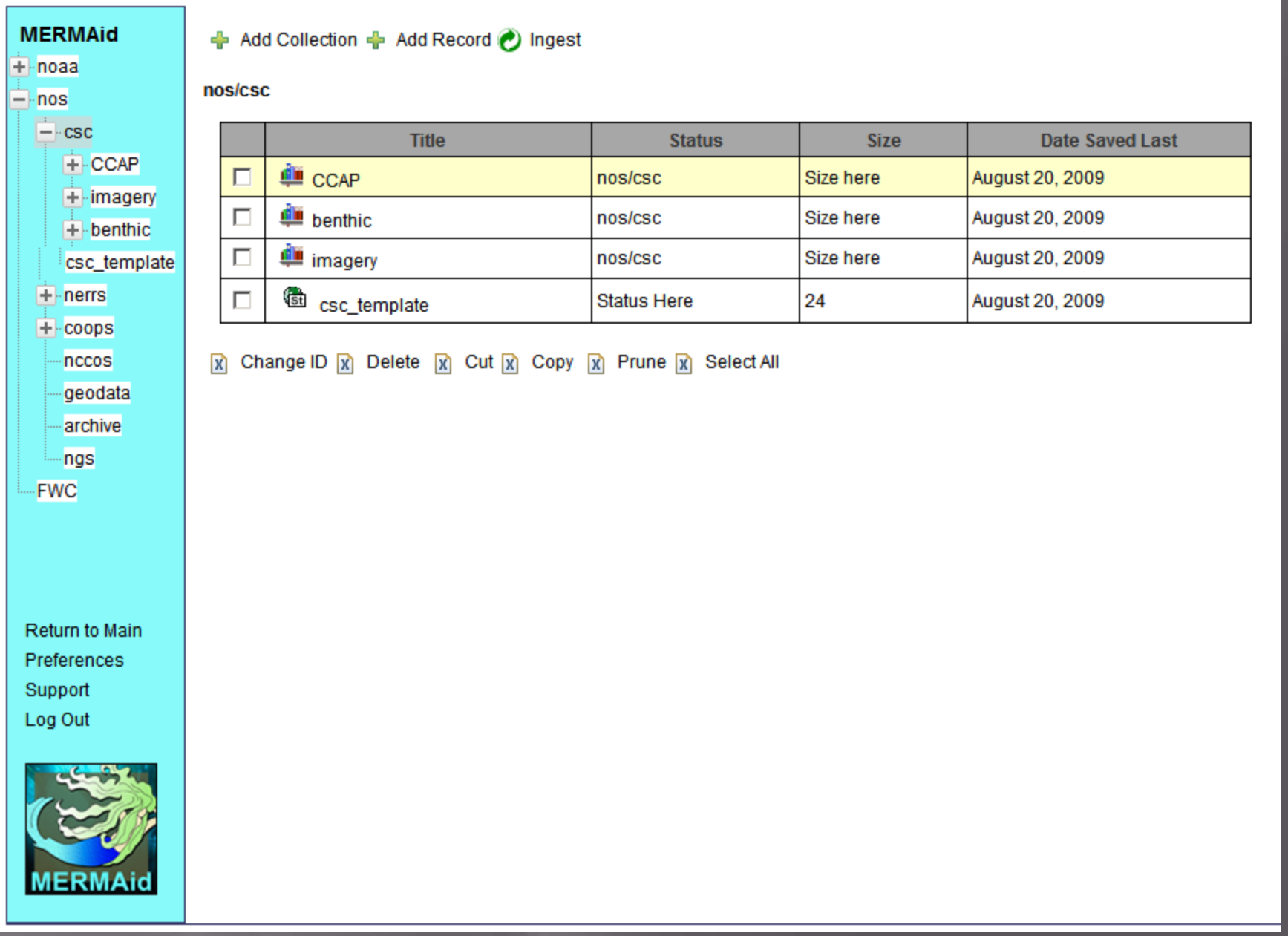
Schematron

vs.

New Look and Feel

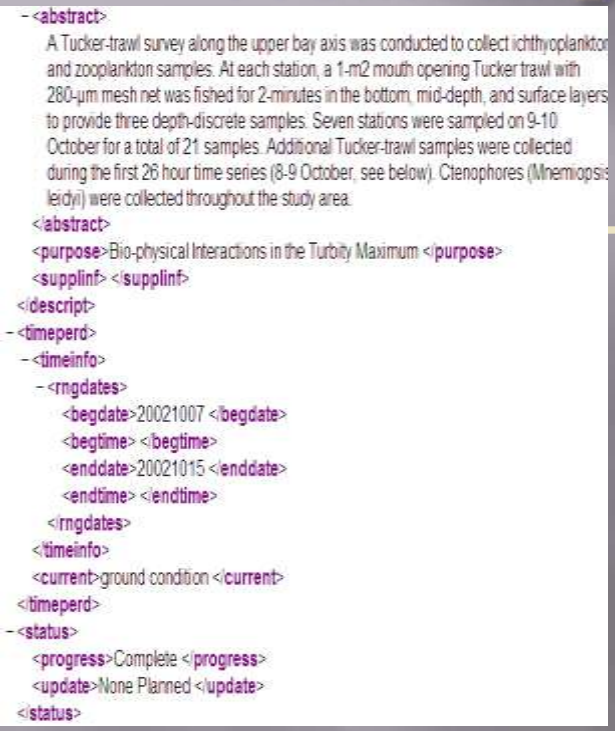


New Look and Feel

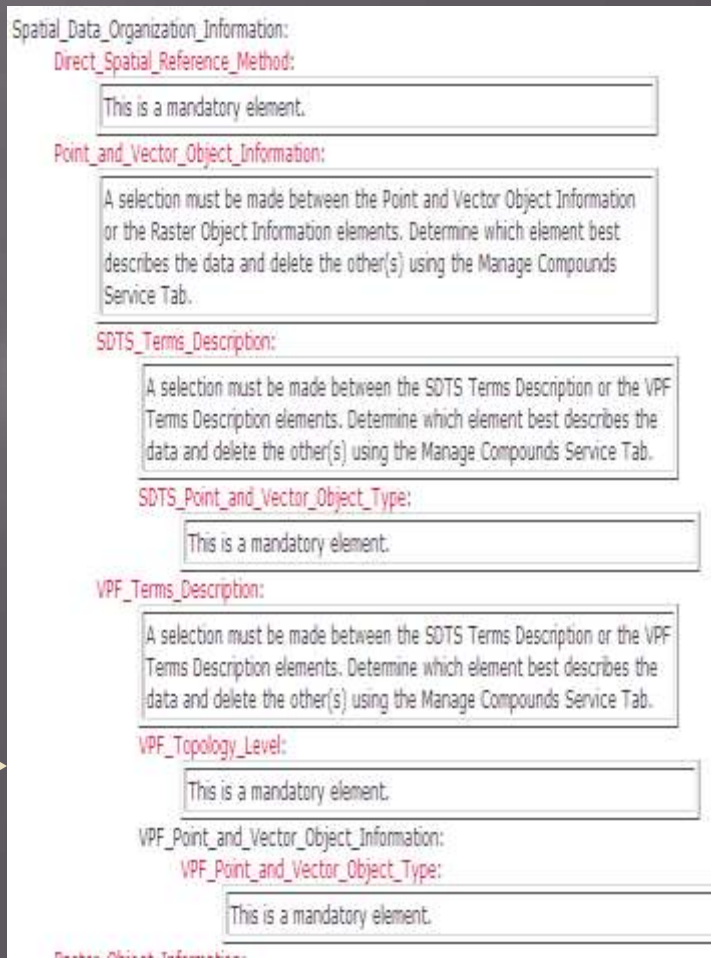


Services

Promoting Flexibility and Collaboration



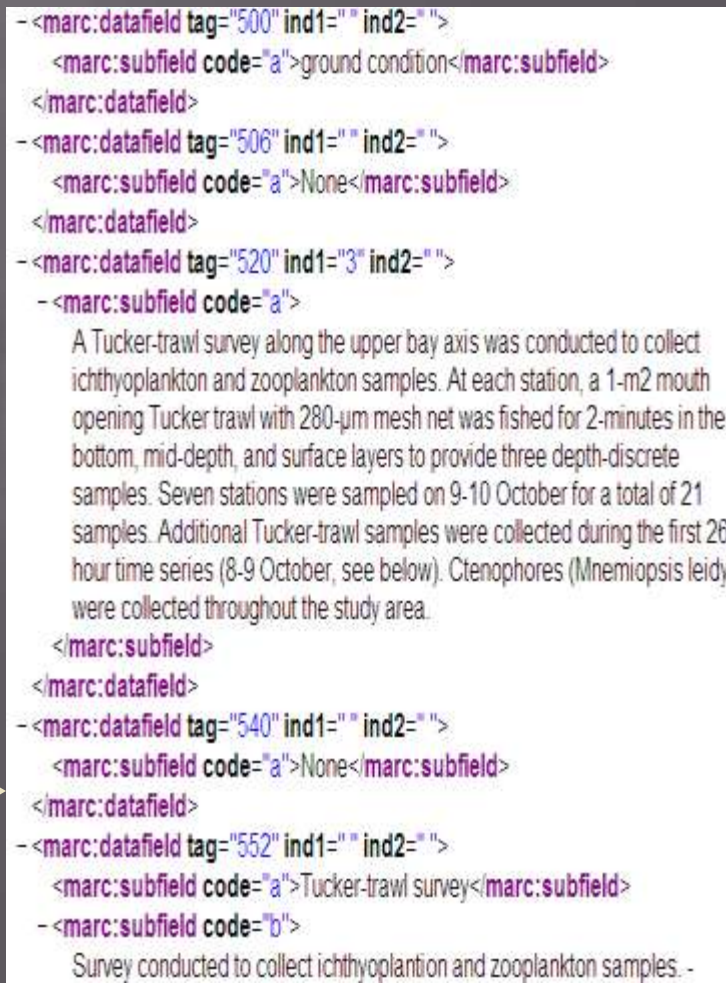
VALIDATION



Services

Promoting Flexibility and Collaboration

TRANSFORMATION



Services

Promoting Flexibility and Collaboration


```
- <abstract>
    A Tucker-trawl survey along the upper bay axis was conducted to collect ichthyoplankton
    and zooplankton samples. At each station, a 1-m2 mouth opening Tucker trawl with
    280-µm mesh net was fished for 2-minutes in the bottom, mid-depth, and surface layers
    to provide three depth-discrete samples. Seven stations were sampled on 9-10
    October for a total of 21 samples. Additional Tucker-trawl samples were collected
    during the first 26 hour time series (8-9 October, see below). Ctenophores (Mnemiopsis
    leidyi) were collected throughout the study area.
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  <supplinf> </supplinf>
</descript>
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  - <timeinfo>
    - <rngdates>
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    <current>ground condition </current>
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- <status>
    <progress>Complete </progress>
    <update>None Planned </update>
</status>
```
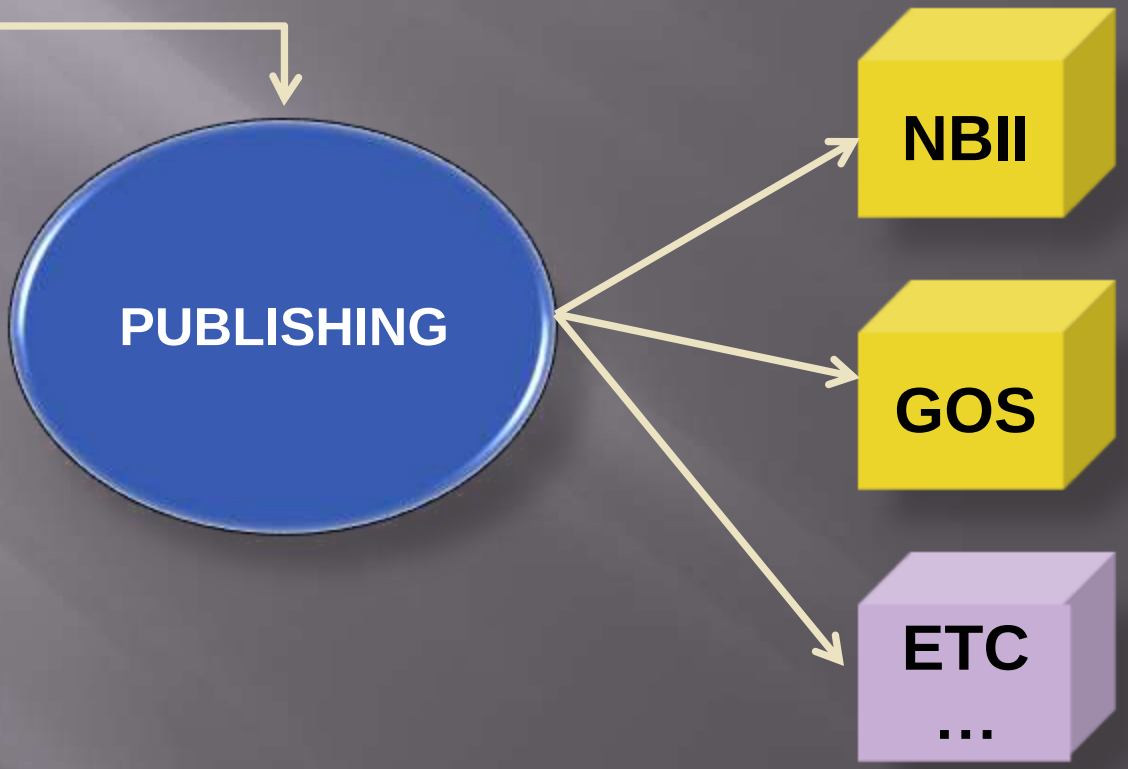




Services

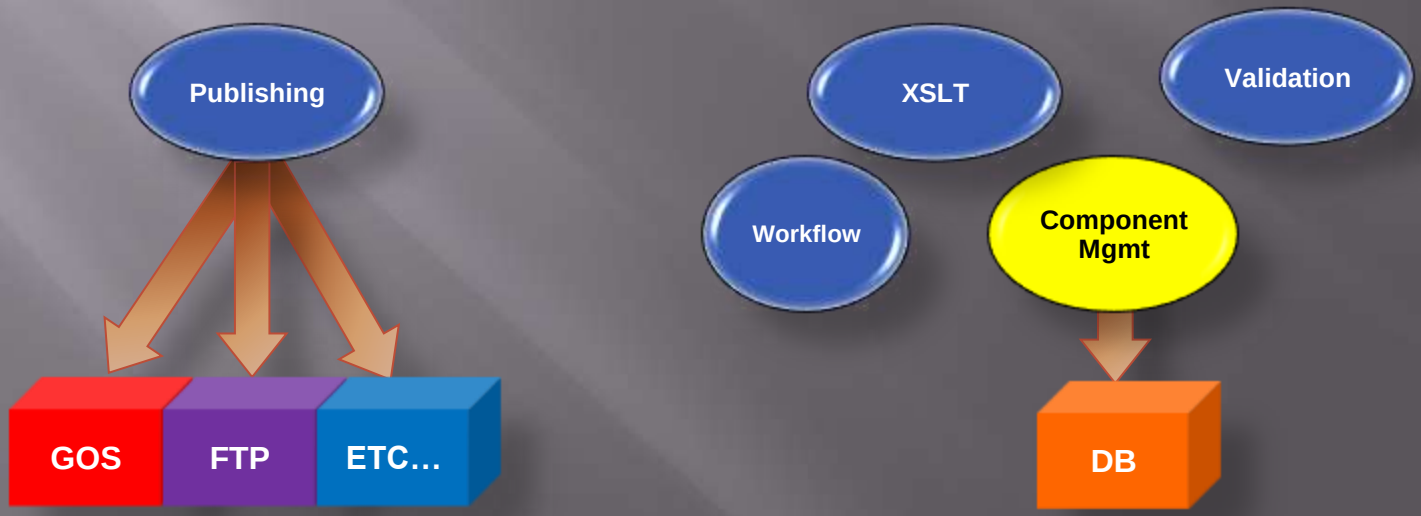
XSLT

Validation

Workflow

Services


MERMAid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XSLT
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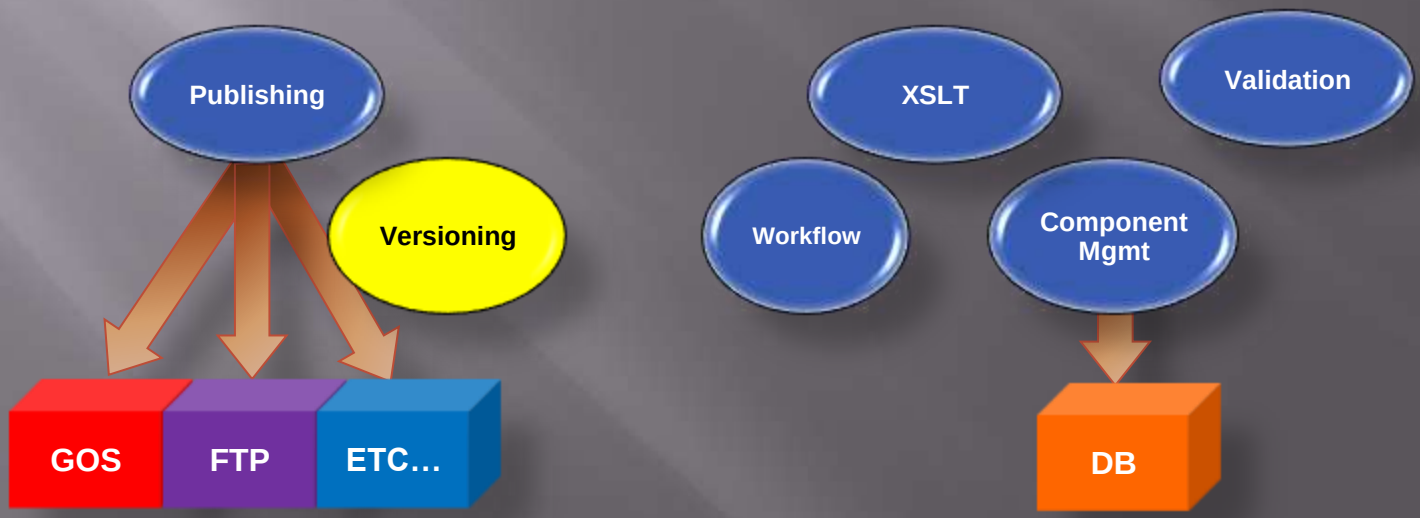
Component Mgmt
GOS
FTP
ETC…
DB

Services


MERMAid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LDAP

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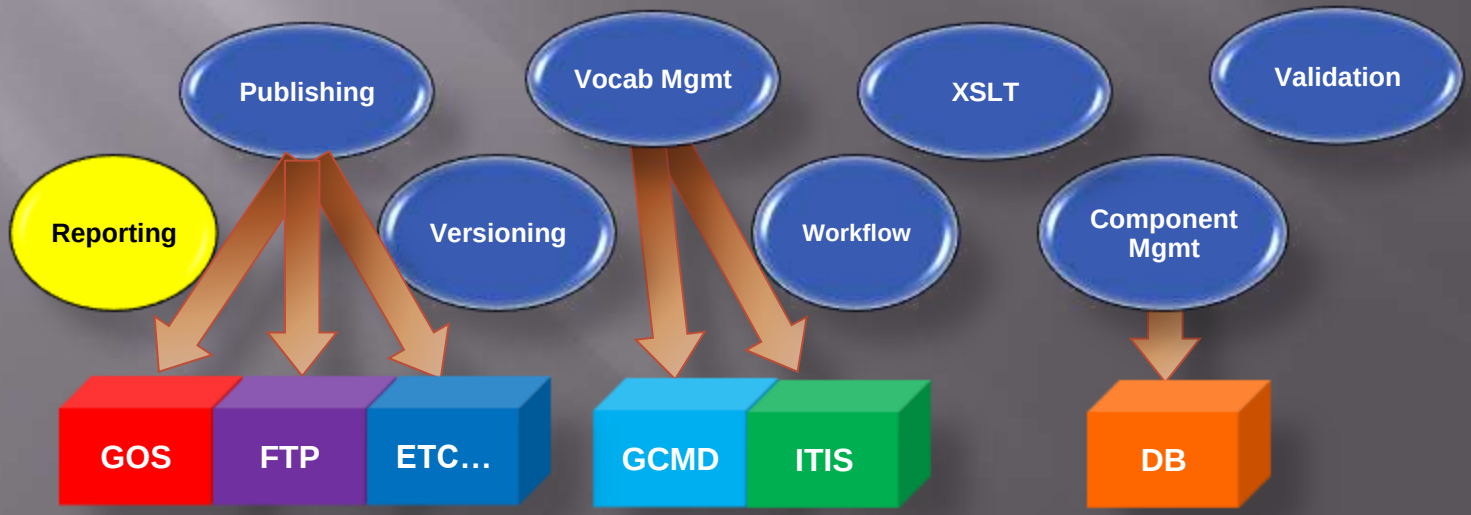

Services

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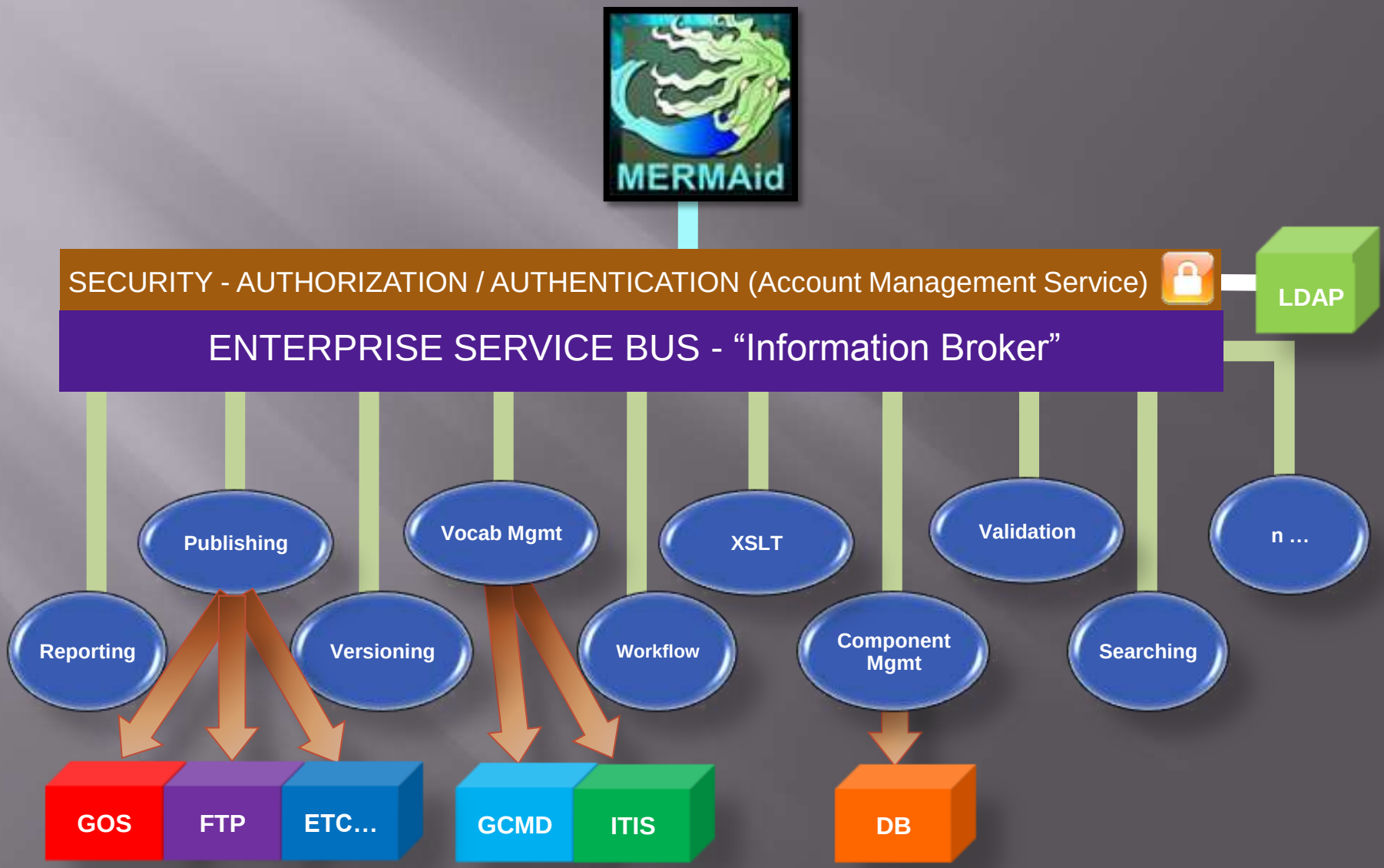
MERMAid
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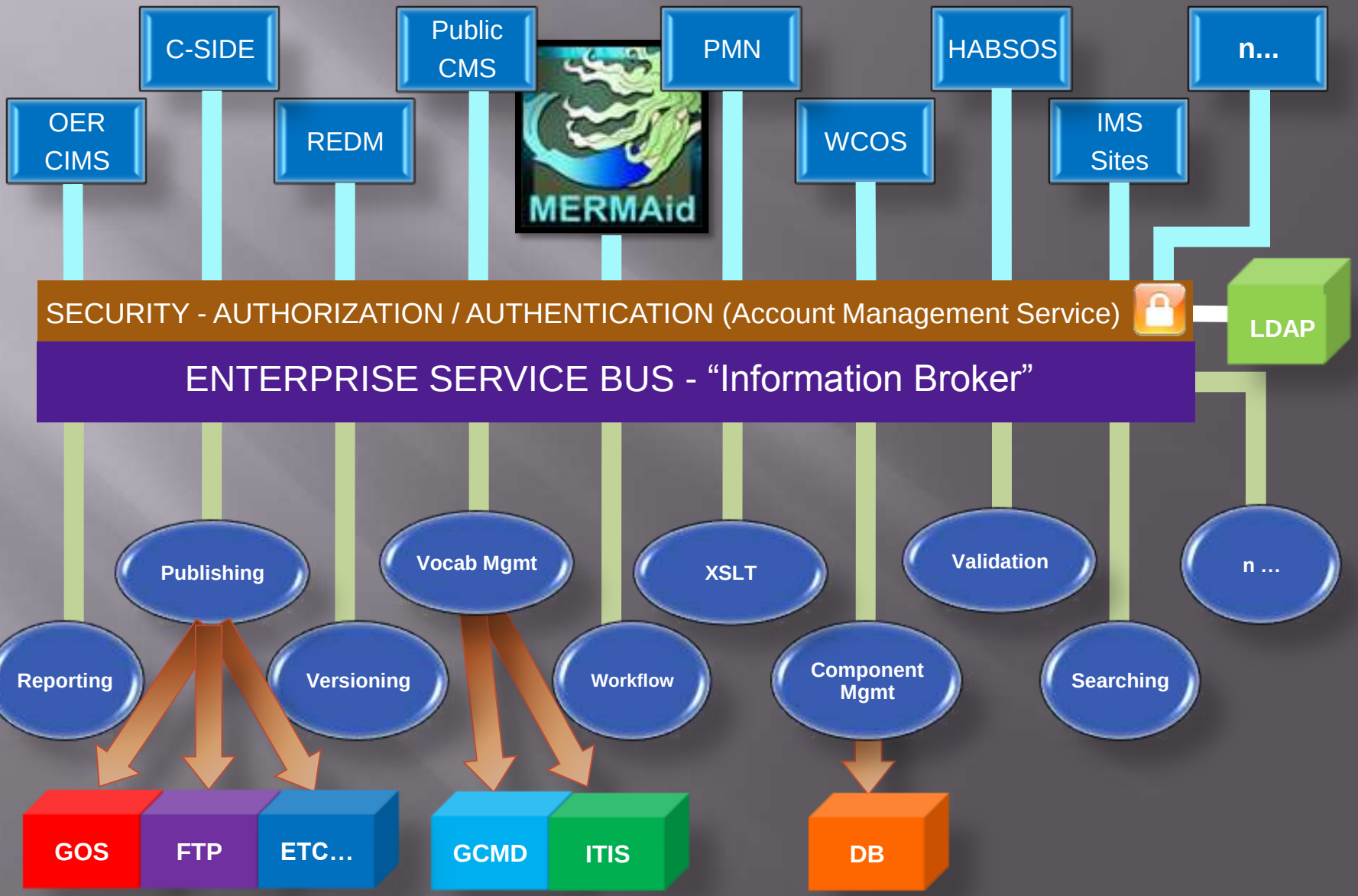
C-SIDE
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HABSOS
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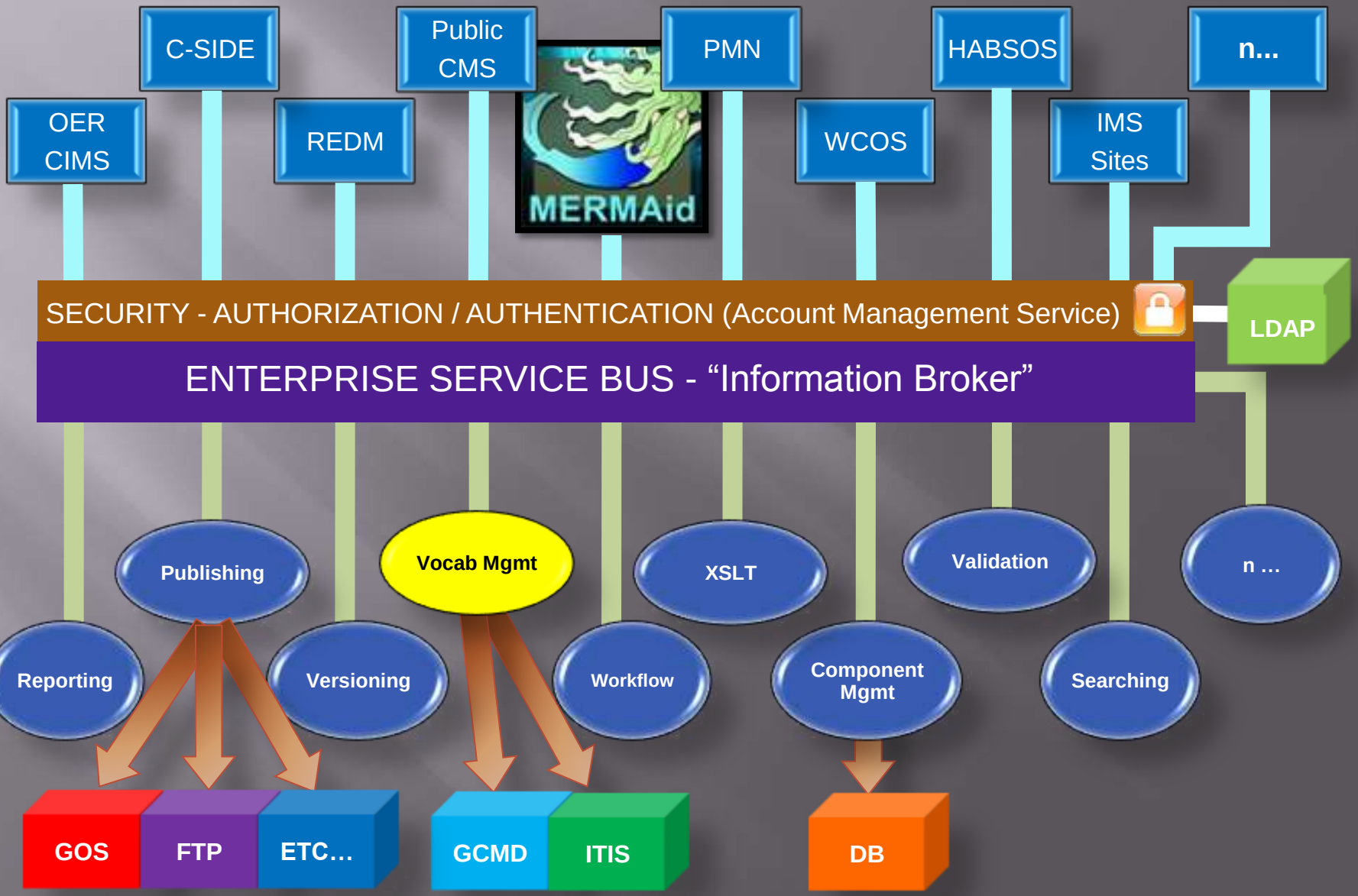
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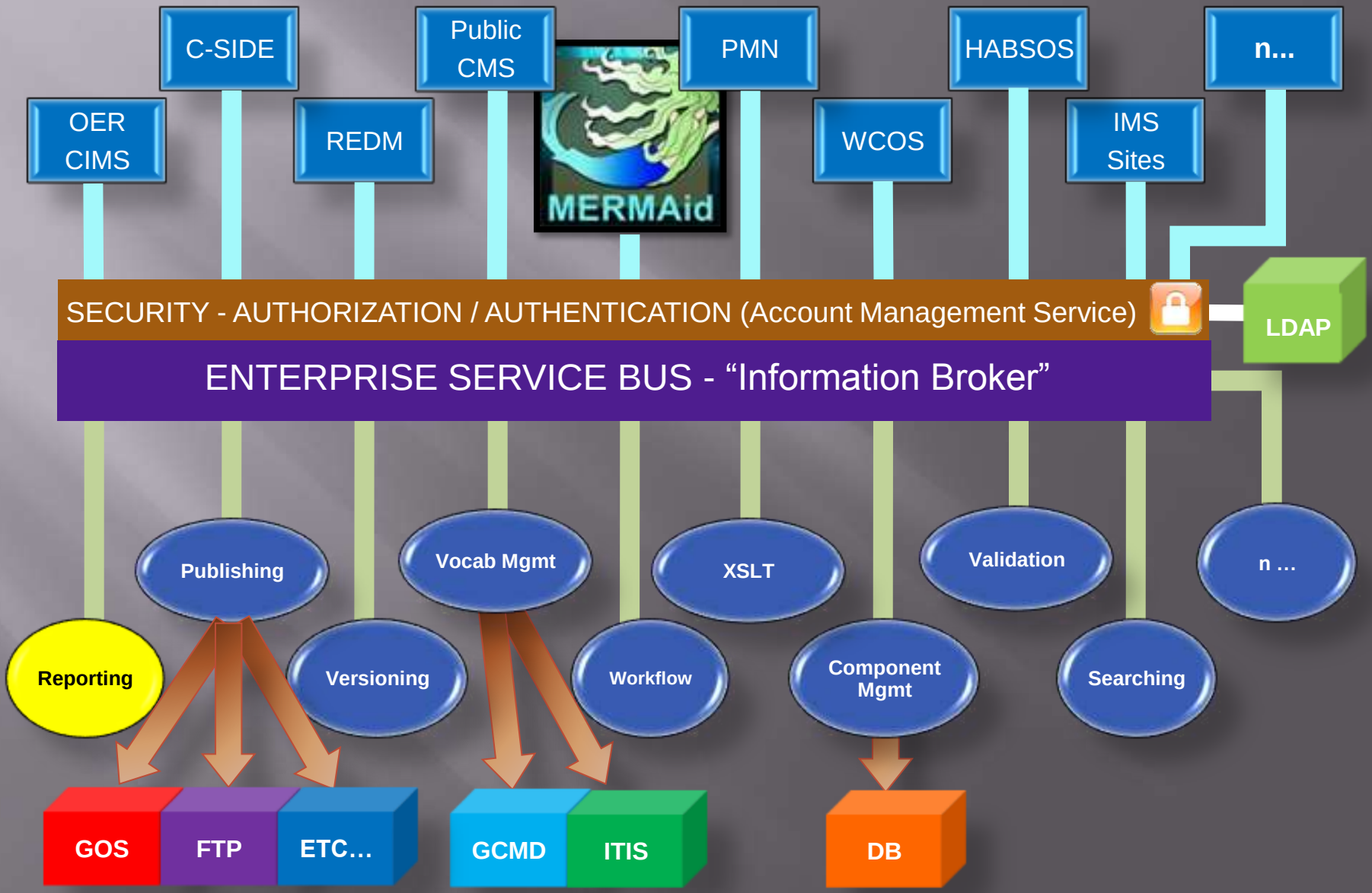
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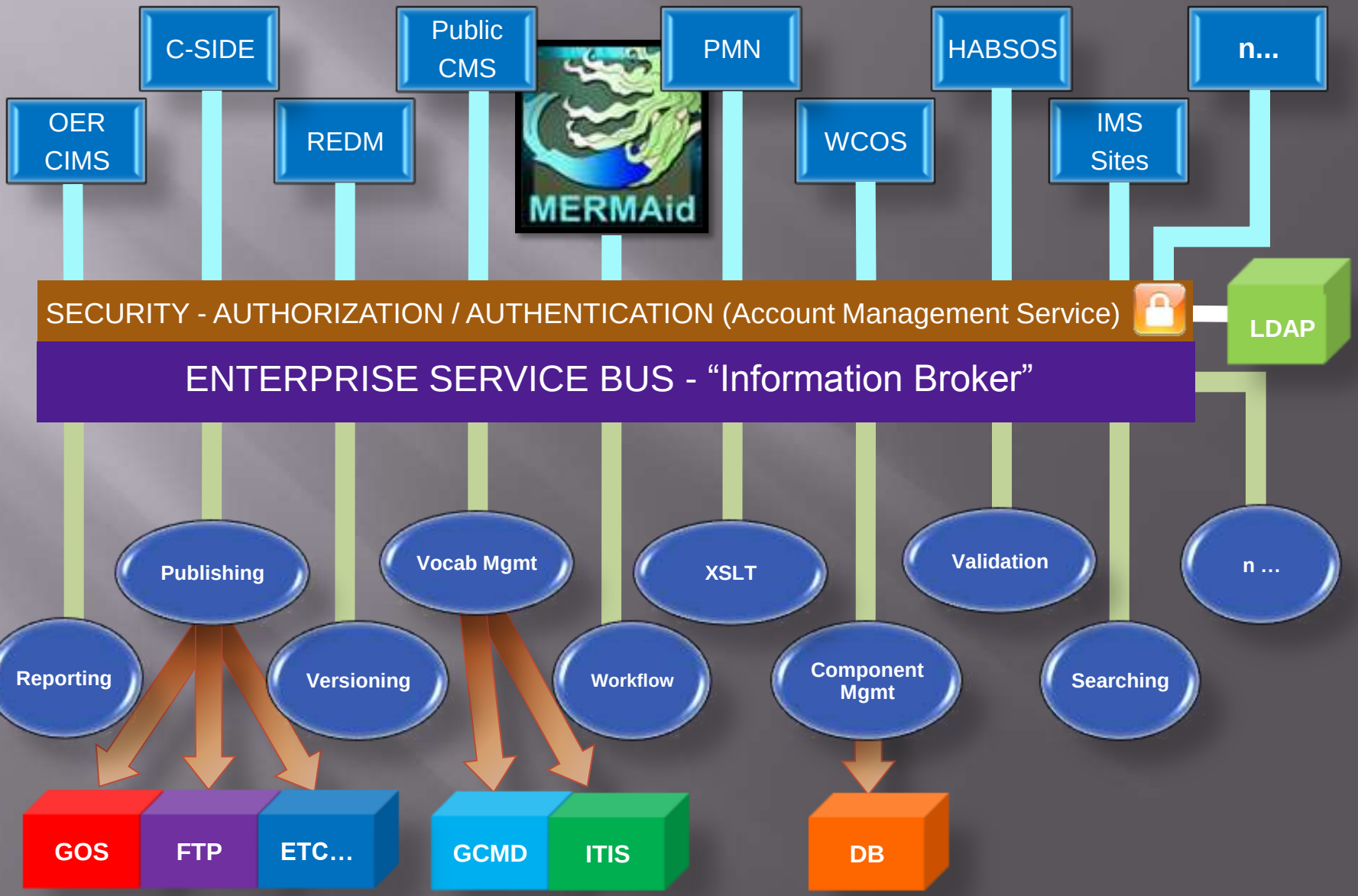
Louisiana Department of Natural Resources



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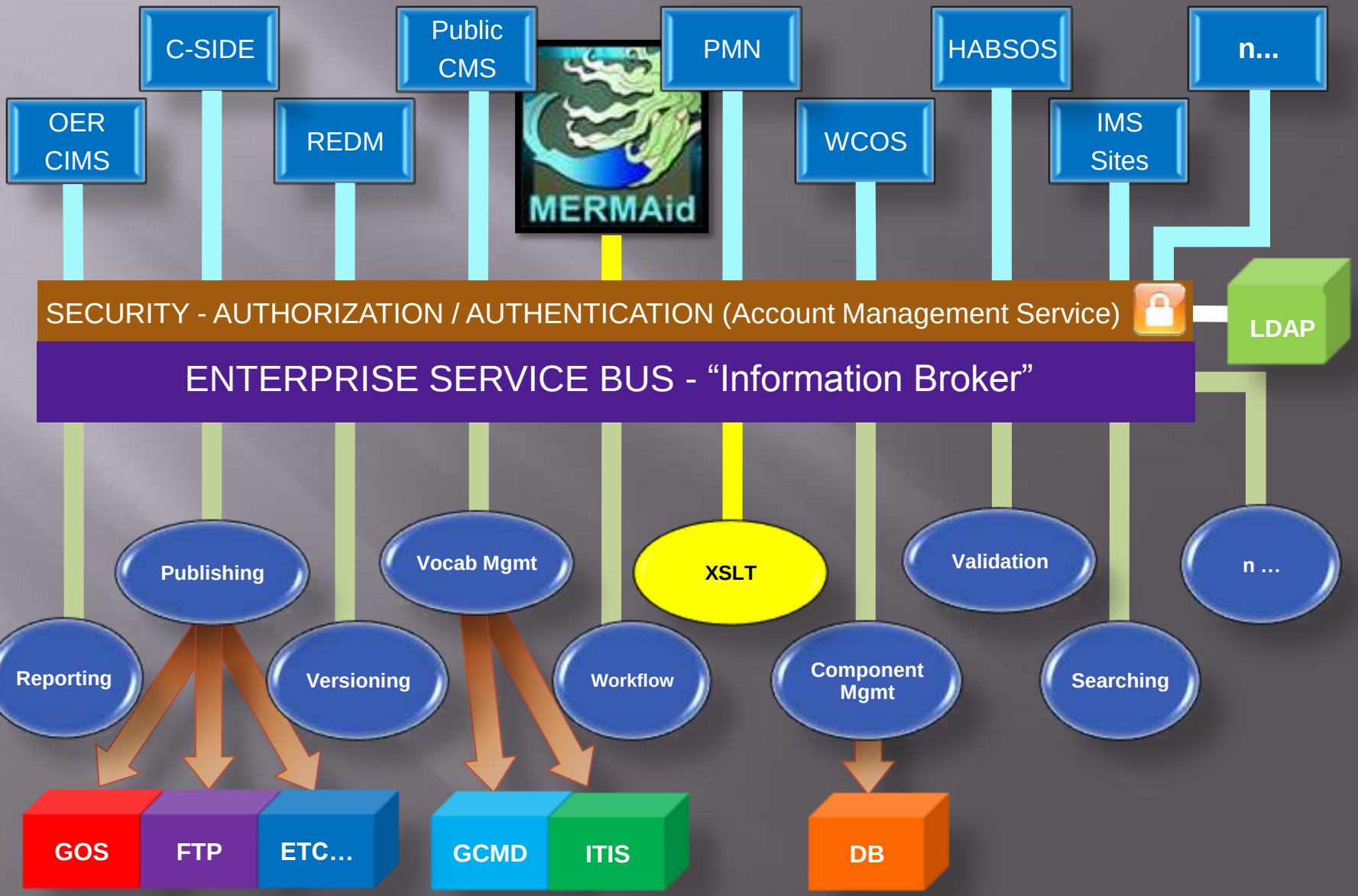

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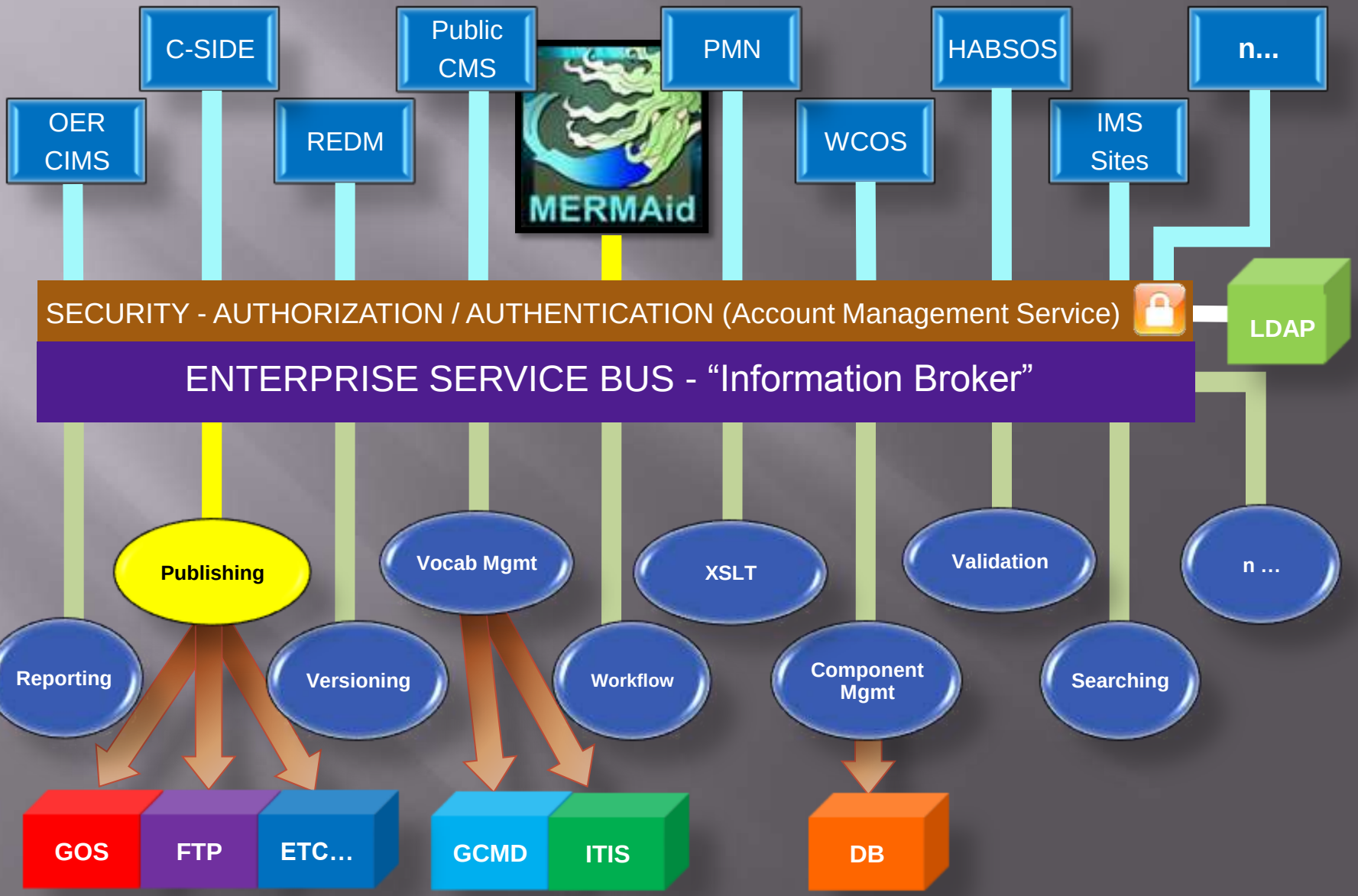
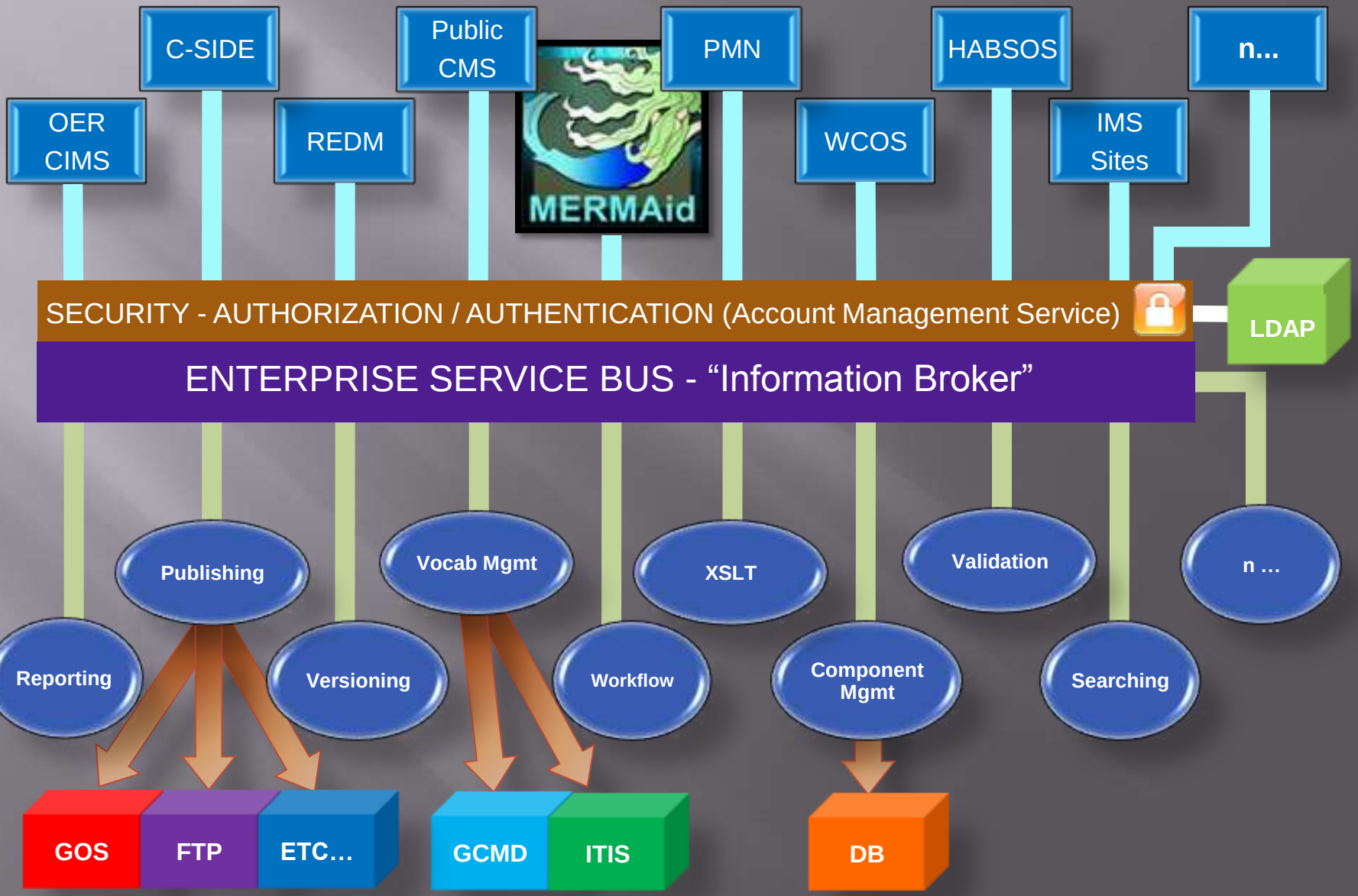


Office of Ocean Exploration and Research



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- Profile support: FGDC Standard, Biological, Shoreline, Remote Sensing, ISO 19115, NAP Profile, EML, Sensor ML
- Output support: XML, HTML, Text, Tabbed, FAQ, MARC
- Ability to convert between all supported profiles
- Ability to publish to multiple data sources (GOS, NBII, REDM, NOS Data Explorer, etc.)
- Versioning of records
- WebDav support
- Search and replace
- Reporting (customized report capability)
- Distributed system
- Standalone version
- Centrally managed elements (contacts, distribution information, etc.)
- Enhanced user interface controls
- Ability to preserve formatting in data entry fields
- Direct integration with externally managed vocabularies
- External APIs for communication with external applications such as OER's CIMS, REDM, etc.
- Taxonomic hierarchy service
- Distributed instances
- Unique document identifier
- Customized templates
- User preferences to manage customizable settings
- Account management and reporting service
- Record review management screens
- Viewable workflow history
- Link management service
- Graphical view of geospatial information